Paper No. 73

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIDEFUMI OHSAWA

Appeal No. 1999-2025
Application No. 08/394,212

HEARD: November 15, 2001

Before HAIRSTON, BARRETT, and LALL, Administrative Patent Judges

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 through 7, 9 through 17, 19, 20, 26, 28, 34 through 44, and 54 through 87. Claims 8, 18, 21 through 25, 27, 29 through 33, and 45 through 53 have been canceled.

The disclosed invention is directed to an improvement upon conventional color image processing apparatuses by enhancing character formation. Before the invention, superposed half-tone dots were sometimes judged during color image processing to be a character region. This occurred because conventional processing merely detected edges for individual picture elements or regions. Appellant's invention includes color image processing by, in addition to detecting a picture element or portion that defines an edge of an image, discriminating a consecutive alignment of the picture elements or portions, each of the elements or portions defining the detected edge. This determines whether the detected edge elements are a character portion or a picture portion. In a character portion, for example, 100% UCR (undercolor removal) may be performed, and nearly all the black formed by the three colors of yellow, magenta, and cyan in that portion is replaced with black ink. In a half-tone portion, 50% UCR may be performed, in which case all outputs, Y3, M3, C3, and K3 (Fig. 1 of disclosure) are reduced by one-half. Intermediate

levels of UCR may also be used, and may provide improved results

in other embodiments of the invention. A further understanding of the invention may be obtained by the following claim:

1. A color image processing apparatus comprising:

(a) edge detecting means for detecting, in a color image, a picture element of said image that defines an edge of the image;

(b) discriminating means for discriminating a consecutive alignment of picture elements, each of which defines the edge detected by said edge detecting means;

(c) color processing means for effecting color processing of said color image; and

(d) means for controlling the state of color processing by said color processing means in accordance with the discrimination by said discriminating means.

The examiner relies upon the following references:

Janeway, III (Janeway)	4,251,837	Feb. 17, 1981
Tsuji	4,742,400	May 03, 1988

Claims 1 through 7, 9 through 17, 19, 20, 34 through 44,

54, 56, 72 through 76, and 82 through 87 stand rejected 35 U.S.C. § 102 as being anticipated by Tsuji. Claims 26, 28, 55, 57 through 71, and 77 through 81 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tsuji in view of Janeway.

Rather than repeat the arguments of appellant and the examiner, we make reference to the brief[1] and the answer for the respective details thereof.

OPINION

We have considered the rejections advanced by the examiner and the supporting arguments. We have, likewise, reviewed the appellant's arguments set forth in the brief.

We reverse.

With respect to claims 1 through 7, 9 through 17, 19, 20,

[1] A reply brief was filed as paper no. 68 on September 28, 1998. However, the examiner denied entry of the brief. See paper no. 69. This appears to us as counter to MPEP 1208.03 which the examiner recites as the authority for the non-entry of the reply brief. However, this is a petitionable matter and, since appellant did not petition this, we assume that the reply brief is not in the record. We add that the entry of the reply brief is not critical to our decision.

34 through 44, 54, 56, 72 through 76, and 82 through 87, the examiner asserts, final rejection (paper no. 60), that Tsuji anticipates the limitations claimed in each of the independent claims under this group. Appellant argues, brief at page 14, that "the claimed invention uses the result of edge detection to discriminate a consecutive alignment of picture elements or portions, each picture element or portion defining the detected edge. Each claim further requires using the result of

discriminating a consecutive alignment of picture elements or portions in controlling further processing of the image data." The examiner points to figure 7 of Tsuji to explain that the edge detection takes place via elements 151, 152 and 154. The examiner identifies discriminating means comprising elements 149, 153, 152B and 157 (final rejection at page 3). However, we agree with appellant, brief at page 17, that "averaging circuit 149 neither detects a picture element that defines an edge of the image, nor discriminates a consecutive alignment of picture elements or portions, each of which defines the

edge detected by the edge detecting means." We further agree with appellant, brief at page 18, that "Tsuji apparently attempts to use submatrix gradation processing [153 in figure 7] for half-tone pictures, and to use dither processing [156 in figure 7] for character printing." We also agree with appellant that once Tsuji has discriminated between the edge forming picture elements and non-edge forming picture elements, Tsuji uses a graduation process or the dither process depending upon that decision. On the other hand, appellant's invention goes further to discrim-inate between the picture elements or image portions, and the character image elements among the data representing the edge

elements of the image. Tsuji does not go into this further discrimination process. Therefore, we do not sustain the anticipation rejection of these claims by Tsuji.

With respect to claims 26, 28, 55, 57 through 71, and 77 through 81, the examiner uses Janeway in combination with Tsuji to assert that these claims are obvious. See pages 5 through 7 of the final rejection (paper no. 60). The examiner admits that Tsuji does not teach the recited black portion

extracting means, and uses Janeway to show that teaching. Id. at page 5. The examiner asserts, id. at page 6, that "[i]t would have been obvious . . . [to] modify the Tsuji's system to process the half-tone image of a document as taught by Janeway because these two references operate the similar environment and the modified system would efficiently extend its ability to process the different formats of the document." However, Janeway does not cure the deficiency noted above in Tsuji in meeting the recited limitation of discriminating means for discriminating a consecutive alignment of picture elements, each of which defines "the edge detected by said edge detecting means." Therefore, we do not sustain the obviousness rejection of these claims over Tsuji in view of Janeway.

In conclusion, we have not sustained the anticipation rejection of claims 1 through 7, 9 through 17, 19, 20, 34 through 44, 54, 56, 72 through 76, and 82 through 87 by Tsuji; nor the obviousness rejection of claims 26, 28, 55, 57 through 71, and 77 through 81 over Tsuji in view of Janeway.

Accordingly, the decision of the examiner rejecting

claims 1 through 7, 9 through 17, 19, 20, 26, 28, 34 through 44, and 54 through 87 is reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
PARSHOTAM S. LALL Administrative Patent Judge	)	

vsh

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